Toward integrated medical resource policies for Canada: 3. Analytic framework for policy development

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This is the third in a series of articles describing the report *Toward Integrated Medical Resource Policies for Canada*,* prepared for the Federal/Provincial/Territorial Conference of Deputy Ministers of Health.[1-3] In the preceding articles we summarized stakeholders' views of the problems in the physician resources sector,[4] identified 11 general themes that run through the report and elaborated on 2 of the main ones:[5] the need for a statement of policy objectives for managing physician resources and the view that the "optimal" number of physicians is ultimately a social rather than a technical judgement. In this article we discuss the following two themes, which provided the analytic framework for the report.

- The heavy focus on policies at the macro level has tended to obscure the crucial importance of the decisions made every day by physicians at various stages of their careers and the incentives influencing them when they make those decisions.
- The complexity of problems and the linkage between them must be acknowledged and respected during the planning for any policy change.

A detailed presentation of all 11 themes can be found in chapter 3 of the full report.

The importance of everyday decisions

It is easy to forget that the current situation is the result of not just past and current health care policies but also, and perhaps primarily, the accumulation of the choices and decisions made by thousands of physicians every day. These decisions are far more important than is typically acknowledged in policy discussion and formulation. Many important problems in the physician resource sector — for example, residency choice and specialty maldistribution, ineffective or inappropriate patterns of practice and utilization, geographic maldistribution and the apparent unresponsiveness of academic medicine to changing social needs — can be addressed only through a better understanding of the factors bearing on individual decisions. Expectations and motivations, perceptions and knowledge, working conditions and incentives all exert powerful influences on physicians' behaviour. In a system of public finance and private provision of medical care it is these decisions "at the coal-face" that drive the system.

The following are but a few of the many examples we were given, largely by physicians, of the incentives faced and the importance of the decisions made in response to them.

- Interest in some specialties, such as general

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internal medicine, is declining because of the "poor" lifestyles and incomes associated with them.

- The culture of tertiary care centres reinforces a view that practice in smaller communities implies second-class medicine.
- The high status or income (or both) that often accrues to certain specialties or subspecialties is disproportionate to the difficulty or social importance of the work involved.
- Excellence in teaching is not rewarded in academic medicine.
- The lack of residents in certain specialties and sites has more to do with the choices of the residents themselves than with the relative availability of residency positions.
- The service imperative (i.e., billing) in academic medicine today distorts the patterns of practice not just of the teachers but of whole cohorts of future physicians.

Interviewees frequently remarked that the "real action" in the medical care system occurs at a level removed and insulated from policies at the macro level. Therefore, no one should be surprised at the poor correspondence between social pressures and needs on the one hand and the result of a combination of a large number of private decisions on the other. Perhaps it is time to focus policies more explicitly on the people whose decisions they are intended to affect. If so, then the first order of business is to examine the types of incentives that influence physicians at various stages of their careers, from entry into medical school until retirement from practice. If progress is to be made toward solving some of the problems in this sector without increased regulation or coercion, then considerably more attention will have to be paid to a restructuring of incentives to more carefully align private with social interests.

The influence of incentives is, of course, a general phenomenon. Incentives affect not only medical students, their teachers and practising physicians but also everyone involved in the management and utilization of physician resources. This includes chief executive officers of teaching hospitals, officials of licensing bodies, university deans and presidents, and patients. Furthermore, the problem of obtaining socially beneficial outcomes from individual choices is hardly restricted to medical care: it is present in all human activity. In fact, the structure of incentives, particularly for effectiveness and efficiency, is largely perverse (in the context of previously stated objectives[5]) for most participants in the Canadian medical care subsystem. The surprise is not that there are problems but, rather, that they are not much worse and did not emerge sooner.[6] On the whole, Canadians have been well served by their medical care subsystem. We take the record to date to be an indication that most providers act conscientiously, most patients act responsibly, and both groups, somewhere in the back of their minds (even if not in the front), have an image (albeit blurred) of the bigger picture. If so, this will be a significant asset in the process of change.

A detailed analysis of the complex sets of incentives facing every decision-maker was beyond our scope and knowledge. Nevertheless, we think that the role of individual decisions and the need to examine medical human resource policy systematically are of paramount importance. Therefore, we adopted an analytic framework for our report that follows and examines physician resources from entry into medical school until retirement from practice. The two foci of our report were the specific influences on the supply of physicians in Canada available for clinical practice and the possible policy avenues for promoting change in the physician resources sector, in each case throughout the medical career life cycle.

We know that even this is an ambitious analytic undertaking. No doubt some readers will identify omissions or will disagree about the points on which attention should be focused. Our primary intent, however, is to offer a framework in which the complexity and key characteristics of the system can be seen simultaneously and from which discussions among all affected parties can proceed.

For example, with the medical career as an organizing concept it is possible to illustrate what was referred to as a "vicious cycle" by many interviewees concerned with an increasing trend toward costly and procedure-driven subspecialization. Their view was that the rewards of clinical practice (prestige, glamour, lifestyle and income) frequently accrue to those performing costly and narrowly focused techniques and procedures that require a highly specialized (though easier to keep up with) knowledge base. This occurs for various reasons, including the structure of fee schedules, prestige within the medical profession, public attitudes, technologic change and the organization of hospital-based practice. In addition to influencing the content of postgraduate training these physicians become role models for interns and residents; this eventually affects choice of specialty and creates pressure for some types of residency positions beyond projected needs while leaving other residency slots unfilled. Some interviewees felt that the image of the successful and respected physician as a highly specialized procedural scientist was also starting to affect even the type of person applying to medical school. The emerging physician cohort, feeling most comfortable with procedure-based subspecialty medicine (which reinforces the choice of urban areas as practice settings), continues the pattern of extensive referral

and the use of high technology, protects the reward structure, recycles the images and culture, and reinforces the trend. One physician summed it up as follows: "At every stage in the production and later support of physicians, we make it easier and more attractive for them to go in directions that we don't want them to go than in ones that we do."

Individual choice is highly valued in our society, and policies that might restrict it attract and merit considerable discussion and debate. Whether or not subspecialization is becoming a concern, however, it is obvious that to change the trend without seriously restricting individual choice will require substantial changes in the structure of the incentives influencing those choices.

Complexity and linkage

While discussing "physicians in a public enterprise" in 1973 John Evans[7] noted the following.

> The problem areas of organization of health services, health manpower, and cost control have been dealt with as if they were separate issues. In fact, they are inter-dependent. Cost control is intimately linked to the supply and distribution of health manpower, and the solution to the problems of health manpower and cost control is dependent in large measure upon the organization of health services. If a rational system of health services is to be developed, it is imperative that when changes are contemplated in one area consideration is given to the consequences in other areas and corrective measures introduced if necessary.

The more things appear to change, the more they stay the same.[8-10]

There are several distinct aspects to the complexity of policy change. Not only is the incentive structure facing individual decision-makers complicated, but there is also a broad network of fragmented control and influence over decisions affecting physicians and others in the health care field. Those affected include people and organizations at the federal, provincial and local levels, politicans and bureaucrats in governments, and people in professional associations, coordinating bodies, licensing authorities, and educational and service institutions. In universities alone, for example, presidents and vice-presidents, deans, department heads, and directors of residency programs, clinical teaching units and continuing education all apparently play key roles in the formulation and execution of policies. There is no mechanism to ensure that the incentives bearing on all of the people and organizations mentioned are consistent or that, even if they were, individual objectives and constraints would motivate consistent responses.

Perhaps most important in the complexity of the problems in physician resources are the linkages between and among specific aspects of the medical career life cycle. For example, the appropriate size of undergraduate enrolment is frequently discussed, and there have been recommendations for its reduction.[11] Yet this is clearly linked to policies concerning graduates of foreign medical schools. If domestic enrolment cuts are not accompanied by limitations on the entry of foreign graduates, then the number of practising physicians may not be affected, and concerns will likely be raised about the diminished opportunity for Canadians to pursue medicine as a career. Similarly, enrolment cuts without other, complementary, policies may worsen the current problems of residency choice and specialty distribution. Adjustments to the residency position complement are linked to issues of service provision in affiliated teaching units.

Geographic maldistribution provides another illustration of linkage. This issue may require simultaneous action on a number of fronts, including medical student recruitment and training, professional income, practice milieu and opportunities for relief and continuing education, and psychosocial and family support. If physicians cannot be recruited to underserviced areas, then one alternative for preserving equity of access to needed services is the use of other health care professionals; however, this then raises issues of scope of practice and, of course, does not remove the need for personal and professional supportive policies.

Almost anywhere in the medical career life cycle examples of interdependence can be found. Policies to limit medical expenditures or the incomes of physicians may have the unintended consequence of "penalizing the good guys" if such policies are not linked to quality assurance activities and information about the effectiveness and appropriateness of practice patterns. Resources committed to research on the effectiveness and efficiency of services and delivery arrangements may be wasted unless the implementation mechanisms exist, publicly or privately, to ensure both the transfer of knowledge and the appropriate response in practice and delivery patterns. Policies to change the distribution of specialists may require simultaneous initiatives to address program accreditation, the process of specialty certification, fee or incomes policies and changes in the physical location, content and milieu of postgraduate training.

Almost by definition there is no simple way to illustrate compactly the nature of this complexity and linkage. In Fig. 1 we attempt, as one interviewee suggested, "to bring everything together in one place," illustrating both influences on the supply of physicians available for clinical practice throughout the medical career life cycle and potential policy

avenues. We do not claim to have succeeded fully in this task; nevertheless, Fig. 1 illustrates the complexity and interdependence of policies in this sector.

The sources of physician supply are Canadian citizens and permanent residents, visa trainees and visa physicians. The losses are those who withdraw from undergraduate or postgraduate training, fail the qualifying examination of the Medical Council of Canada, take up non-clinical-practice careers, retire or emigrate. (The temporary losses for leave of absence, continuing education etc. are not shown.) The approximate points of inflow and outflow are indicated by the position and direction of the arrows.

On the right side of the figure are shown (without consideration of who controls them) current and potential policy avenues for affecting decisions and outcomes. Again, arrows are used to indicate the approximate points of policy intervention. In addition, colours are used to distinguish different policy types — for example, capacity and mix of physician resources, curricula and so on.

Fig. 1 is intended to be an overview or backdrop for the more selective analysis of options and recommendations that is presented in the full report.[2] The right side of the figure may be used in two ways: first, a cluster of policies of different types may be examined for a specific phase of the life cycle (e.g., all policies affecting undergraduate education) and, second, policies of a specific type (e.g., funding and reimbursement) may be identified by their colour to show their effect throughout the life cycle.

Overall, Fig. 1 illustrates the many different types of policy and the many places at which policy change might be introduced in the physician resources sector. Both sections of the chart are, of course, simplifications of even more subtle or detailed processes. Furthermore, the identified policy avenues should not be viewed as isolated options. The pursuit of one route almost always has repercussions on or implications for other routes.

In one interview the difficulty of accomplishing significant change in the physician resources sector was likened to "turning the Queen Mary around in a small river," because of the apparent constraints on all sides of each problem. The complexity in this sector means that change will require careful consultation and coordination, with particular attention to the expected impacts throughout the life cycle and the timing of complementary policy initiatives. In addition, a commitment to change will be required from all, or at least most, parties. In our view policy leadership will have to arise from — or be distributed to and accepted by — more parties than have in the past been prepared to lead. Although our report was commissioned by the Federal/Provincial/Territorial Conference of Deputy Ministers of Health,

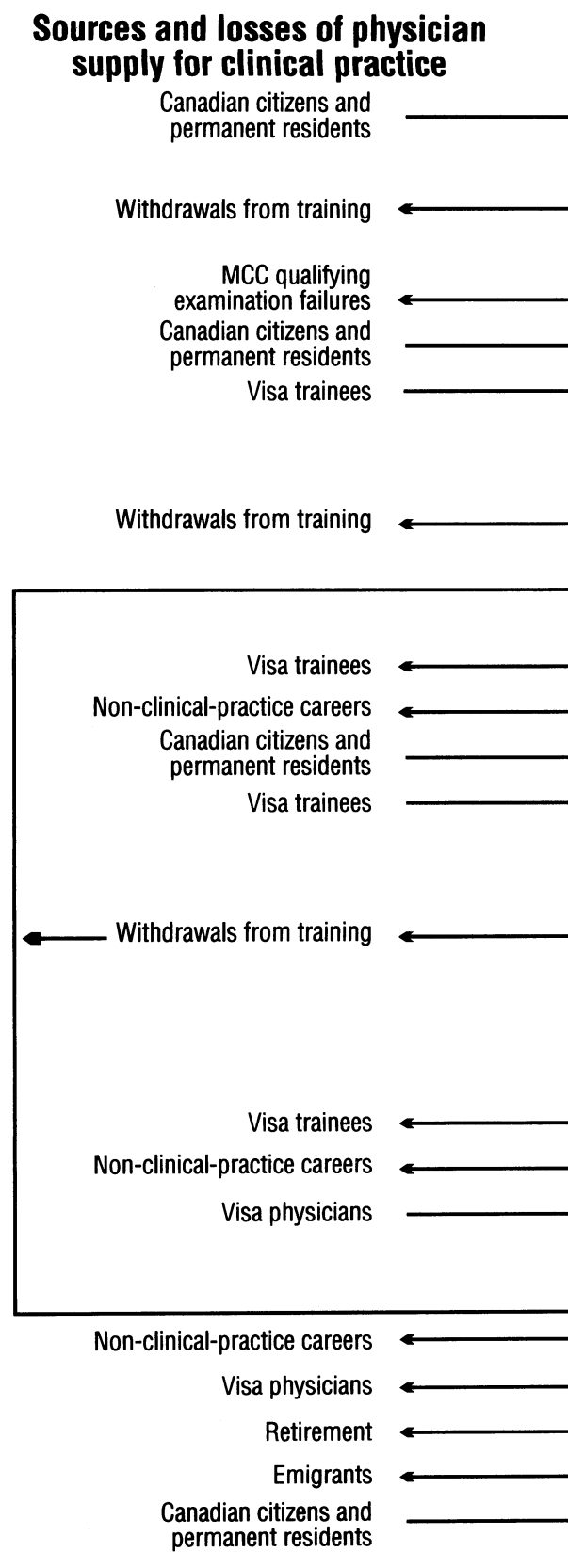
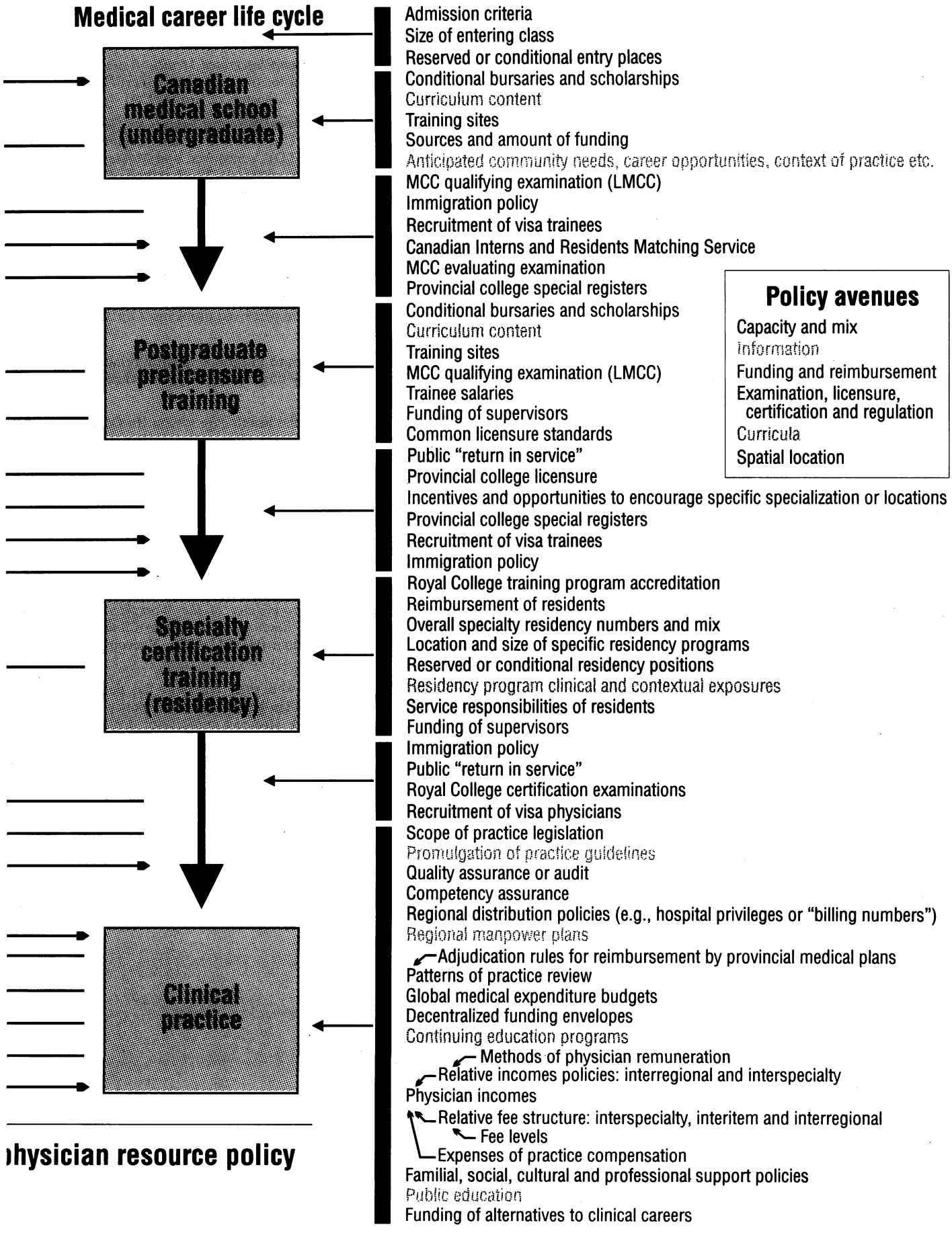


Fig. 1 A framework fo


Medical career life cycle
Canadian medical school (undergraduate)
Postgraduate prelicensure training
Specialty certification training (residency)
Clinical practice
Admission criteria
Size of entering class
Reserved or conditional entry places
Conditional bursaries and scholarships
Curriculum content
Training sites
Sources and amount of funding
Anticipated community needs, career opportunities, context of practice etc.
MCC qualifying examination (LMCC)
Immigration policy
Recruitment of visa trainees
Canadian Interns and Residents Matching Service
MCC evaluating examination
Provincial college special registers
Conditional bursaries and scholarships
Curriculum content
Training sites
MCC qualifying examination (LMCC)
Trainee salaries
Funding of supervisors
Common licensure standards
Public "return in service"
Provincial college licensure
Incentives and opportunities to encourage specific specialization or locations
Provincial college special registers
Recruitment of visa trainees
Immigration policy
Royal College training program accreditation
Reimbursement of residents
Overall specialty residency numbers and mix
Location and size of specific residency programs
Reserved or conditional residency positions
Residency program clinical and contextual exposures
Service responsibilities of residents
Funding of supervisors
Immigration policy
Public "return in service"
Royal College certification examinations
Recruitment of visa physicians
Scope of practice legislation
Promulgation of practice guidelines
Quality assurance or audit
Competency assurance
Regional distribution policies (e.g., hospital privileges or "billing numbers")
Regional manpower plans
Adjudication rules for reimbursement by provincial medical plans
Patterns of practice review
Global medical expenditure budgets
Decentralized funding envelopes
Continuing education programs
Methods of physician remuneration
Relative incomes policies: interregional and interspecialty
Physician incomes
Relative fee structure: interspecialty, interitem and interregional
Fee levels
Expenses of practice compensation
Familial, social, cultural and professional support policies
Public education
Funding of alternatives to clinical careers
Policy avenues
Capacity and mix
Information
Funding and reimbursement
Examination, licensure, certification and regulation
Curricula
Spatial location
hysician resource policy

the provincial ministries of health are only one set of key players. Systematic and coordinated (rather than ad hoc and isolated) policy analysis, development, implementation and evaluation must become a priority for them, but it must also become a priority for others. We must stop falling back on the status quo or blaming the medical profession or government for every problem when change is perceived to be too difficult conceptually, too slow politically, too threatening personally or too fractious professionally. We are where we are precisely because this pattern has persisted for the full life of universal public medical insurance. What we prepare for now will be what we get later.

Future articles

Future articles will address some of the major policy areas analysed in our report, including undergraduate medical education, graduates of foreign medical schools, postgraduate training and specialty certification, the role and funding of academic medical centres, maldistribution of physician resources, accountability for effectiveness and efficiency of service provision and utilization, remuneration and global expenditure policies and the creation and provision of better management information. Although the articles will deal with specific issues the analyses of these issues and the policy recommendations concerning them were developed from the analytic framework outlined here and reflect the importance of both individual decisions and policy interdependence throughout the medical career life cycle.

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